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**THOMAS G. NEWMAN,
EDITOR.**

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Editorial Buzzings.

Ask the wild bees hovering over
Yon wind-drifted bank of clover,
Why they loiter so.

Some refer to this as a "backward Spring." But we must not look forward for any Spring belonging to this year.

We Had a pleasant call from Dr. C. C. Miller last Friday. He has recovered from his severe attack of *La Grippe*, and is now "himself again."

Honey from fruit blossoms has been plentiful this season, and the bees have faréd well on it for stores and brood.

Rain, in generous quantities, has refreshed vegetation all over the Northern States. It has been worth millions of dollars to the tillers of the soil. In many places it was getting very dry, and the rain was sadly needed.

Prof. Cook will go to Washington about Aug. 15, and will "leave no stone unturned" to accomplish the reversal of the ruling concerning the necessary proofs of pedigree, etc., in order to admit imported queens free for breeding purposes, and thus at the same time permit them to be sent from Europe to America by mail, for making them subject to duty on arrival is the only reason for them not being mailable. Prof. Cook adds: "I believe that I can secure a ruling that will make it all right. If we cannot secure that, then we will have the law modified by the next Congress."

Frosts have been doing much damage in some of the Northern States. A letter from Kalamazoo, Mich., on May 18, thus records the present condition of crops in that vicinity:

Frost last night and the night before, in the fruit district, did more damage than the one two weeks ago. Ice formed half an inch thick. Strawberries are badly hurt; raspberries not so much; cherries nearly destroyed; peaches not much injured; grapes on low ground pretty badly bitten, on the hills not so badly. All crops are suffering from the prolonged cold weather and drouth.

The Honey Crop of California, in 1890, was good—not equal to 1884, but much better than for several years past. Messrs. Schacht, Lemcke & Steiner, of San Francisco, estimate the crop at $4\frac{1}{2}$ millions of pounds of extracted, and half a million pounds in the comb—making 5 millions in all. The quality was very choice, and nearly all of it has been sold, leaving the markets almost bare. Much of it has been sent to Europe. The average price of comb-honey has been 12 to 13 cents; for extracted-honey $5\frac{1}{2}$ to 6 cents. The one-pound sections have nearly driven the two-pound California frames out of the market. The latter were the popular size only a few years ago.

The honey crop for the present year is very satisfactory so far as reported.

Another Triumph for the Union has just been achieved in California. In Tulare county, Mr. F. M. Hart and others kept some bees. A grape-raiser circulated a petition to the Board of Supervisors, to have the bees removed, because they were charged with ruining the grape crop—that damage was done by rain, however. Mr. Hart wrote the facts to the Manager of the Union, who, last February, instructed him how to proceed, and sent copies of the Arkansas Supreme Court Decision, to be placed in the hands of the Board, and head off the petitioners. The result may be seen by the following from the proceedings of the Board of Supervisors, as published in the Visalia *Delta* of last week :

THE BEE-MEN WIN.—At the last session of the Board a delegation of Lucerne county people appeared before the Supervisors for the purpose of having an ordinance passed, making bee-keeping a nuisance. A delegation of bee-men were also present, for the purpose of remonstrating against any such action. The matter was laid over until the May session of the Board. On Saturday the matter was taken up for consideration. District Attorney Power filed the following written opinion regarding the matter :

In reply to your question, "Can the Board of Supervisors prohibit by ordinance the keeping of bee-farms?" I would say that bees are property, and that being such you cannot destroy the right of the owner therein. If these farms are so kept that they are an interference with the enjoyment of the lives or property of others, they are nuisances under Sec. 3479, Civil Code, under which the injured parties may cause them to be abated. One cannot conduct a lawful business in such a manner as to interfere with another's rights (Tueblo vs. Cal. St. R. R. Co., 66 Cal., 171); and the question of the existence of the nuisance is one of fact (1 Cal., 386; 1 Cal., 467; 3 Cal., 238; 29 Cal., 156; 30 Cal., 379; 45 Cal., 55).

Any attempt of the Board to prohibit these farms on the ground that they are a menace to fruit farms would be a usurpation, by it, of the functions of courts and juries, a denial to the citizen of his property-rights, and practically a confiscation of his property without due process of law. You may impose a license on bee-farmers for the purpose of regulation and revenue (Co. Gov. act., Sec. 25, subd. 27).

MAURICE E. POWER, District Attorney.

After the reading of the above opinion, it was ordered that the petition declaring bee-keeping a nuisance be denied, on the ground that the Board has no jurisdiction in such matters. This ends the matter for the time being,

however unsatisfactory it may be to the fruit men of Lucerne valley.

Mr. Hart wrote as follows on May 16, 1891:

MR. NEWMAN:—Since you instructed me how to proceed, I have felt quite easy about the fruit-growers' petition, but most of the bee-men have been in hot water all the time. Quite a number of them have sold out at a great loss, while others have moved from 50 to 80 miles to the mountains on the west of the valley. A few remained with me to "weather the storm." There were about 135 signatures to the petition, but we have won a substantial victory!

F. M. HART.

Traver, Tulare Co., Calif.

The Union is to be congratulated upon another victory without cost, except its moral backing and some correspondence and energetic work. While Mr. Hart's action was directed by the Union, he remained in perfect quietude, and his rights have been sustained. His neighbors became frightened at the "cry of the wolf," fled to the mountains, and sacrificed their property. How much cheaper and more comfortable it would have been to have held a membership ticket in the Union, and had its backing, moral support, and defense!

◆◆◆◆◆
A Nice sample of six-banded Italian bees are received from the Rev. W. P. Taylor. They are bright yellow, and some of them show a little spot of dark on the back, giving them a beautiful appearance.

◆◆◆◆◆
Extra Thin Foundation is received from W. H. Norton, of Skowhegan, Maine, which is very transparent, and shows beautiful workmanship. It takes 34 sheets, 4x16½ inches, to make a pound, being about 15½ square feet to the pound. This is, we believe, thinner than any manufactured, so far, with the natural base for cells. In fact, it looks much like the Van Deusen flat-bottomed foundation, justly admired for its thinness and beauty.

Aaron Coppin is made to say, on page 456, that the State Fair premium on bees was given to him, and not to Mr. Trego. The writing was so poor that the letter had to be copied and reconstructed before it could be given to the printer. It was, of course, fully intended to convey the exact idea of the writer, but it seems that such was not done. He desired to say that though the premium was awarded to Mr. Trego, in justice it belonged to him, had the award been made on the merits of the case. This straightens out an apparent contradiction, and should have been made public long ago, but on account of our enforced absence from the office by sickness, it was overlooked until now.

Spraying of Trees before fruit bloom is exciting considerable discussion now among horticulturists. Some one has sent us the following item, published by the Lyons (N. Y.) *Republican* on May 5, 1891:

Several farmers report that the insect which has destroyed so many millions of dollars' worth of apples during the past few years, is to be found in the very center of the now hard and tightly-closed bud. No remedy has as yet been suggested, except spraying *as soon as the bud opens*.

We sent the item to Prof. Cook, and asked him to make a reply to it for the *AMERICAN BEE JOURNAL*. His answer is as follows:

As I have repeatedly stated, fruit trees should never be sprayed while in bloom. For the codling moth they should never be sprayed until the blossoms fall, as to do so earlier makes it less effective, and, in case of heavy rains, it may be entirely valueless. It should ever be borne in mind that the codling moth does not lay its eggs until after blossoming occurs. These eggs do not hatch until some days later; hence, the unwisdom of spraying for this insect before the blossoms fall, even from late blooming varieties like the northern spy, is most apparent.

There is, however, some bud moths, the caterpillars of which eat into the buds, and so pass beyond any danger from the arsenites, if not applied very

early. The linden span worm, of late very destructive in Michigan, and some other larvæ, have just this habit. Besides, there are the canker worms, that attack the foliage before the buds have fairly opened, and would do quite serious damage if we waited until the regular time for spraying codling moth.

In case any locality is so unfortunate as to be the victim of any of these early despoilers, then the fruit grower should spray as soon as the buds begin to swell, and again after all blossoms have fallen, but **never when the trees are in bloom**.

This season we are getting much honey from fruit bloom, and the bees are doing equally good service for the fruit.

A. J. COOK.

Bare-Headed Brood.—A correspondent asks the following question:

What is the cause of the bees not capping some of the cells of brood, before the brood is full grown, and building some cells one-eighth of an inch longer than the others? I have thought that it was the beginning of foul-brood, and do not know how to treat it.

St. Paul, Minn. J. A. HOLMBERG.

Bees sometimes leave small patches of brood without sealing. Some think that it is on account of the presence of worms, while others think that the worms have nothing to do with it. It is what is often called "bare-headed" brood. In any case no harm will come of it, and it has nothing whatever to do with foul-brood.

That Picture on page 665 of our last issue made hundreds laugh, no doubt. Well, it is sometimes good to laugh, and that is the only redeeming feature about it. The only way to make anything out of it, is for the reader to "stand on his head," for the engraving appears wrong side up. The way it occurred was this: In the hurry of making up the editorial pages (always the last work done on the forms) the printer inverted it, and the editor did not see anything more of the page until it was printed, when it was too late to correct it. We reproduce it and the article this week, to show how it should have appeared.

Wavelets of News.

Something for Nothing.

The very words are suggestive of dishonesty, for something is the result of somebody's labor, and he who gets it without giving its equivalent in labor or value is beating somebody out of the just fruits of his labor. The really honest man settles the merits of a proposed business transaction by two questions: Am I getting real value? Am I giving real value?

Something for nothing is the meanest and most contemptible form of dishonesty that ever poisoned the moral nature of man. It gets property on the same terms that the thief gets it, but without the courage that the thief possesses in exposing himself to the penalty.—*Western Plowman.*

Chilled Brood, Not Foul-Brood.

Chilled brood never made foul-brood. Does any one really believe it ever did? Do they not rather hold this view: The spores of foul-brood are so plentiful that they are floating around everywhere, and a lot of chilled brood is just the right soil for them to take root in; just as white clover seems to come up of itself.—DR. C. C. MILLER, in *Gleanings.*

Feeding Bees in Spring.

You will be surprised to see what a lot of honey is used up by the bees in rearing brood.

More bees are probably starved in Spring than in Winter. It does seem too bad to get them through the Winter all right, start a big brood, and then have the whole business die for want of vitality.

You can look at the tops of the frames without any lifting out, and if you see any sealed honey, they are in no immediate danger. They seem to have more heart when they see a full cupboard, and go at brood-rearing with a will.

This time of year you need not be so particular as to the kind of feed. Any honey not fit to put on the table, white sugar, brown sugar—so long as they can fly every day they can safely take almost anything, even if soured. Be careful not to start robbing when you feed them.

It is a big thing to get all your colonies strong in time for the beginning of the main honey-flow. Everything de-

pends on this. A big lot of bees a month before that time, means only a lot of bees on expense. A very weak colony that just gets built up by the time the harvest is over is no good.

But few people need have any anxiety about having their colonies strong too early. Better board them a little while before the time for work than not to have workers enough when the time does come.—*Exchange.*

Mammoth Clover for Bees.

In 1889 I had a large field of mammoth clover within a few feet of the hives. The first growth did not attract the bees, as they were busy with the white clover, for all will remember how abundant the white clover was that year. But later, when the second growth blossomed, the bees flocked to it in great numbers. Of course, that was an exceptional Fall for clover, but I think the bees gathered about as much honey from the mammoth clover as they did from the white during the Summer. Our bees, which are Italians, had, I noticed, gathered considerable honey from the ordinary red variety, but they prefer the mammoth. I think the mammoth clover deserves to be sown more extensively than it is, for it not only affords abundant pasture, but the stalks form a matted covering upon the ground, which is very beneficial.—J. L., of Greene Co., O., in the *National Stockman.*

Prevention of Robbing.

Except during a honey-flow bees from other hives will pounce upon any honey left exposed. If one bee, that may be hovering about searching for such a chance, discovers it and secures a load, he quickly returns with a score of companions, and they in turn, if successful, will each bring as many more, and a large quantity of honey will be carried away in a short time, as well as a great uproar caused, during which there is danger that every person or animal, anywhere near, will be severely stung. So look out and give no robber a chance.—*Exchange.*

What Does Cooking the food accomplish? is asked by a correspondent. Cooking the food accomplishes rapid disintegration of the particles subjected to that process—doing the work in advance of the stomach.

Queries and Replies.

Drone-Laying Queen.

QUERY 768.—A queen introduced last August has proved to be a drone-layer. She has been laying some time, and the drones began to hatch on Feb. 23 or 24, and the hive is well filled with brood. 1. What is the best plan for me to pursue to supersede this drone-layer with another queen, and save my colony? 2. Can I rear, and have fertilized by these drones, a queen in this colony in time to save it? 3. Would it not be more profitable to destroy the bees and save the frames of honey for a swarm? 4. This queen I purchased of a queen-breeder. After she has proven worthless, would it not be right for him to return the money, upon notice of the fact?—Ohio.

3. Yes. 4. Yes; if it can be shown that the queen did not lose her fertility in transit, or if the queen-breeder guaranteed safe arrival.—JAMES HEDDON.

1. Better unite the bees with one of your weaker colonies. 4. Unless there is something unusual about the case, I think he will replace her.—C. C. MILLER.

1. I doubt if it can be done. Bees hatched in August would be dying too rapidly of old age. 2. I think not. 3. That is my opinion. 4. Yes.—EUGENE SECOR.

1. I would destroy the bees and save the combs. 2. It is extremely doubtful. 3. Yes; in my opinion. 4. Yes; or give you another queen.—J. M. HAMBAUGH.

1. Remove her, and introduce a fertile queen. 2. Do not try it; it is doubtful in both cases. 3. I think it would, unless there is a large number of workers. 4. Yes; most assuredly.—J. E. POND.

1. Not worth saving. 2. No. 3. Yes. 4. Are you sure that the drone-layer is the identical one purchased? She might have laid a few eggs, and then been destroyed, and the bees reared one which failed to be fertilized.—MRS. L. HARRISON.

2. Kill the queen and insert one frame of worker brood, with young larvae and eggs, from your best colony. 2. Yes. 3. It depends on how many bees there are left. 4. Yes; provided it is evident that

she is the queen he sent you. It very often happens that a queen is superseded when introduced, by an old discarded queen being in existence in the colony at the time of introduction.—DADANT & SON.

1. I should unite this colony with a weak one. 2. I think so; but a queen reared so early, when bees are few, I should not value very highly. 3. No; unite and save the bees. 4. I think he should send you another queen without extra charge.—A. J. COOK.

1. Take out the drone brood and put in a frame of worker brood, with queen, if you have an extra one; or put the bees in with some weak colony, and destroy the drone brood. 4. I think not, as there are so many things to produce a drone-layer after leaving his hands.—H. D. CUTTING.

1. Remove the queen and give the colony a frame or two of brood, some of it ready to hatch. 2. Yes, by giving brood as above. 3. No. 4. Yes; if there is no room to think that the queen you purchased was lost, and that the present one was reared by the bees afterward.—M. MAHIN.

1. Supersede the queen as soon as a fertile queen can be secured. 2. A queen reared from such a one, fertilized by her own drones, would probably be entirely worthless. 3. No; I would let them live and see what can be done with them. 4. I think the breeder will send a new queen when the facts are explained to him.—C. H. DIBBERN.

1. Introduce a good queen. 2. I think not. It has not been proved that such drones are virile. 3. Better to unite with another colony. 4. If a queen-breeder sends out a good queen, and for some cause unknown she proves worthless, it would seem that the purchaser would lose. However, I should be willing to stand the loss in such a case.—G. L. TINKER.

1. I have saved several colonies that proved to have drone-laying queens by giving them brood from strong colonies, at the same time removing the unfertilized queen, leaving the bees to rear a successor. But this was done in the latter part of March, so as to have the young queen ready for the first drones. 2. In all my experiments, I have failed to get a queen mated by drones that were the progeny of an unfertilized queen. I have tried such drones often and carefully, and I believe they are sterile, and no good. 3. I think you had

better give up the old, worn-out bees, and utilize the hive and combs for an early swarm. 4. I should return the money if I had chanced to send out such a queen.—G. W. DEMAREE.

1. Remove the drone-layer, and introduce another queen, which is very easily done at this time of the year, in such a case. 2. As they have probably been reared in worker-cells, I would not trust the drones. If strong, by giving the colony some brood now and then, and destroying the queen-cells, until about time for drones to fly, you could. 3. That would depend on the circumstances of the case. 4. Yes; or a queen.—R. L. TAYLOR.

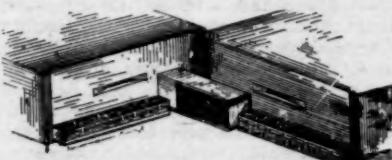
1. Pinch the drone-layer's head and give the colony another queen. Add a frame or two of emerging brood from some strong colony, to assist in building up. 2. If the drones are hatched in worker-cells, they would be physically defective, but if in drone-cells, they would be capable of fertilizing your queens. 3. No. 4. He should replace the queen, provided you informed him that she was a drone-layer as soon as you discovered the fact.—J. P. H. BROWN.

1. Kill the queen and give a frame (from another colony) of hatching brood, and one of eggs and small larvae, to keep the colony in heart till they can rear a queen. 2. Yes; as I have given above. 3. No; I think not; only as brood is given. 4. Well, that depends. If a "dollar queen," according to the "father" of this idea, all you were guaranteed was that a laying queen was to be sent you, so you have no right to ask a return of your money. If a tested queen (unless you can prove that a poor queen was purposely sent you), she was doubtless injured in transit, and if so, was the breeder to blame? If not, why should he refund the money? Again, the queen may have been injured after reaching you by the bees or yourself, and afterward "proven worthless." If the queen was a warranted queen, or in any case, it seems to me the proper thing to do would be to kindly state the case to the breeder, and ask if he would not replace her. If he is a gentleman, he will do so—unless the queen was a "dollar queen."—G. M. DOOLITTLE.

The colony is not worth fussing with. Destroy the bees and, queen; and save the combs and honey. If the queen was guaranteed, of course the breeder will replace her.—THE EDITOR.

Hiver and Drone-Trap.—Mr. N. C. Petrie, of Cherry Valley, O., has obtained a patent on a new hiver and drone-trap, one of which is sent to our Museum. Mr. Petrie says:

Its special object is to direct a swarm of bees into an empty hive. The attachment is hung on the hives by hooks secured to the upper side of the device. It is an elongated L-shaped box, with openings in the end, and deflecting cages or guide ways laid from the openings. These guide ways are made of zinc, perforated, the perforations being of a size to permit the workers to pass readily therethrough, but prevents the escape of the queen and drones. The guide ways are entirely open on the



PETRIE HIVER AND DRONE-TRAP.

sides adjacent to the hives, so that the bees may freely enter, and by them be directed into the attachment. They may be also open at the bottom to affect an economy of material, the ledge of the hives preventing the bees from passing. The front and left sides are covered by wire screening, so that the movements of the bees may be observed.

The main idea of our swarmer is to allow enough workers to accompany the queen to induce her to remain in the new hive, and we think that our swinging partition will allow three times as many bees to accompany the queen as can go with her by using the cone.

The swinging partition is hung from the top of the box, and is met about two-thirds of the way by an elevated platform or step, which reaches to within $\frac{1}{2}$ of an inch of the bottom of the partition or gate, leaving room for a worker to get under, but forcing the queen or drone to swing it inwardly. It is prevented from swinging outward by a staple in the top of the box inside.

Prof. Totten, of Yale University, predicts that the millennium will come early in 1899. His startling contributions to *Frank Leslie's Illustrated Newspaper* on this subject are attracting world-wide attention.

Topics of Interest.

Qualities of the Punic, or African, Bee.

"A HALLAMSHIRE BEE-KEEPER."

So much has been said *pro and con* about the "Coming bee," to be called *Apis Americana*, the qualities it is to possess, etc., that many will be surprised to learn that a bee has been found, that excels anything ever predicted in the coming American wonder.

The name of this bee is the Punic bee—*Apis Niger*. It is ebony black in color, and is a smaller bee than our native blacks, or the Italians; there are no bands or marks of any kind on it; young bees are the color of green ebony, shading off to true raw ebony when beginning to field, and finishing off to polished black ebony when old, and all hairs are worn off them. Their qualities are:

1. They are the tamest bees so far known, the only time when it is possible to get them to sting, being when they have the swarming fever.

2. In crossing with other races, this docile quality is very marked, not even Cyprian blood being able to make them bad tempered.

3. They are the hardiest bees known, being able to fly from and return to their hives with safety with snow on the ground, and mercury 30° above zero.

4. They do not fly into the snow like other bees.

5. They begin work at the "peep of day," and before the sun rises they are working in full force, and have the ground picked over before other kinds are on the move. Probably this is the chief reason why they get more honey than any others.

6. If the day is rather dull, or cool, they will be working in full force, though no other kind of bees will be flying.

7. The queens are very prolific.

8. In a fair season the smallest nucleus will build up, without feeding, into a grand colony for Winter. So much is this "building up" quality present in them, that a good, strong colony can be divided into 20 at the end of May, and each will build up in a good season, without feeding, into a 10-frame colony well stored for Winter, and yield one or two 20-pound supers of honey from the heather.

9. They beat every other kind of bees in their working energies.

10. They live longer than any others.

11. They fill and seal sections fuller, and cap them whiter than any other race.

12. For extracted-honey, they have no equal.

13. They can eat the hardest and dryest sugar; in fact, they will carry away the hardest and dryest sugar loaf (when no honey is to be had) put under a shed and kept as dry as possible; thus reducing the trouble of Summer, Spring or Winter feeding to a lower point than has ever been considered possible.

14. Although they search out sweets and carry them off anywhere, they are *not inclined to rob other hives*—honesty, being with them, a ruling guide or principle.

15. They swarm earlier than any others.

16. They fill cracks or chinks with an enormous quantity of propolis, and if natural supplies fail, nothing "sticky" comes amiss, e. g., bird-lime, coal tar, etc. Some may deny that this a desirable quality, but with it they keep their combs clean, and thus make *anything* do for hives—even baskets.

17. They cluster well on their combs, spread evenly over them, and shake off readily.

18. They build little drone-comb, but plenty of worker, as white as snow.

To sum up, they are docile bees, hard-working, prolific, non-robbing; easy to handle, and best for nice, white, well-filled sections.

They have very many more good points that are more in favor of the queen-breeder, horticulturists, etc., than the honey producers; these being the parties to appreciate the bee that does not sting, and will build up from 1 to 20, and possibly yield 1,000 pounds of surplus honey.

They also have the following characteristics: If a pure-blooded-queen mates with a drone of any other race, her bees are a *blend* of the two races, and though better than the race mated to, are not so good as pure. This seems an invariable rule, as in no instance have I had them as good as the pure race—crossing every other race, in my experience, results in a better bee, taken all around.

If a pure Punic drone mates with a queen of any other race, the resulting bees almost equal pure Punics for honey gathering, and in other respects the cross is very marked—Carniolans, for instance, using propolis as much as pure Punics.

So that, taking them all around, I fail to see how mixing any of the blood of

the present races, will be an advantage. The Punicies will improve them, but they themselves will not be improved, so that we most go in for pure Punicies alone, if it is desired to have the best possible.

I have never seen their equal in building comb, which is nearly always worker, and as white as snow. Their brood is always compact, and sealed in such a manner that I could easily pick out one frame of Punic brood in a thousand.

In "building up," all we have to do is to see that they have plenty of stores; if not, then feed them as rapidly as possible, and let them alone, and they will breed away as if they intended to fill the earth with bees, and work hard, too, in picking up more food. "No stimulative, slow feeding; no brood spreading, etc. All that they require is plenty of room, and sure enough they will fill it if left alone, and the season is a favorable one.

Speaking of "feeding," I have not had to feed an established colony yet. Other races may have dry combs, but they will not. The season of 1888 was the worst known here, yet I got 12 pounds of surplus from one colony, and had to feed all other kinds all Summer and for Winter.

I often feed up colonies in the Fall, to work them up into a condition for Winter, and, again, may give them a feed in the Spring.

All around, I have found them a most wonderful bee, and yet for a long time I was prejudiced against them; they were *black* for one thing, and I was *sure* they would never withstand our long Winters, so I was somewhat indifferent whether they lived or not, until their wonderful building-up qualities struck me, and made them more interesting, especially when the Winter proved them the hardest lot of bees I had.

If I had had less prejudice, I should have gone in for them largely the following year—1887—but instead of doing so, I Cyprianized nearly my whole apiary. I have only one colony of Cyprians now; the reason I have cleared them out being they are no good as honey gatherers.

I have tried Palestines, Syrians, Italians, Cyprians and Carniolans with the result that I find the only bee which excels our native blacks are the Punicies. Carniolans are a good race, and stand third on the list.

I am fully convinced that the very best bees will be found in Africa, but whether it will be the Punic, or some other race, near the great central lakes, remains to

be seen; anyhow, here, we are getting bees from Africa.

It is quite a regular thing for a first swarm to leave 200 queen-cells behind, while 600 is really nothing to be surprised at. If a frame filled with drone-foundation, or a drone-comb, cut down to midrib, is put in a colony about preparing to swarm, every drone-cell almost will be worked out into a queen-cell, that is, vertically, but hexagonal, but when sealed the cappings are just like drone-brood sealed, and every bee-keeper would say it *was* drone-brood.

This is a curious feature which I have never noticed in any other kind of bees. I think it is quite possible to get 2,000 cells sealed to work in this manner, but cannot say, not having tried to get them, as it was impossible to find colonies or nuclei for what I did get. I have not put this down as a good point, as it is more for the queen-breeder than the honey-producer.

Sheffield, England.

Spiral-Spring Queen-Cell Protector.

N. D. WEST.

FRIEND NEWMAN:—In June, 1889, I sent you a sample of a queen-cell protector and cage that I had invented, but asked you not to publish anything about it, for I wished to thoroughly test them, and did not know whether it was best to get a patent on them or not.

I find they are far superior to any cell-protector I ever saw, and I send you a

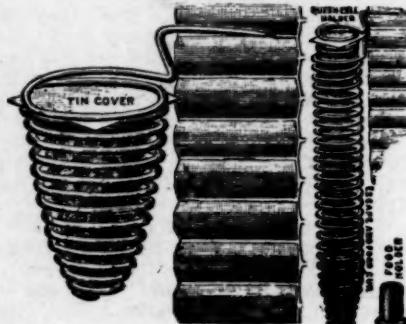


Fig. 1.

Fig. 2.

WEST'S SPIRAL-SPRING CELL-PROTECTOR.

sample again to-day with a circular explaining its uses. I have applied for a patent on it, and it is about through now.

I find that the bee-keepers only have to see it to know that it is a good thing;

very convenient to use, cheap and durable, and by the use of both the cell-protectors and cages, we can control swarming about as we please, and re-queen the hive at the same time with the best natural cells, and at the proper season, too, without cost or much trouble.

I wrote the following for *Gleanings*, and now copy it for the AMERICAN BEE JOURNAL, so that its readers may learn of the uses and advantages of my queen-cell protector :

The cell-protector was worth over \$100 to me two years ago in swarming time, as I re-queened over 100 colonies



COILED WIRE QUEEN-CAGE, WITH A CARTRIDGE SHELL FEEDER.

with cells from my choicest ones, and at the same time stopped swarming where the cells were introduced. My bees wintered well, and came out strong the following Spring, while others lost very heavily all around here.

I dare not say that it is a positive fact that the method I practiced two

years ago will always prevent swarming, but it did with me in four different yards, and it was a swarming year, too. The hives that I did not treat that way nearly all gave swarms, and in many of them I killed the queen while the swarm was on the wing, and gave them a choice queen-cell in the protector, from a hive that had cast a swarm five or six days before. This is easily done while the bees are on the wing.

This way of re-queening an apiary costs nothing, and gives a chance of doing it when swarming-cells are plentiful, and this is the time to do it, because we can get better queens; and by going to a hive that has not swarmed, and especially if for any cause the queen is condemned, kill her and destroy the cells, if any are started, and give them a choice cell in the protector at once.

If you want queens for this purpose, go to a hive that has cast a swarm five or six days previously, cut out carefully all the cells you wish to save; place them in the protectors; lay them in a box of cotton, or have a block with a number of holes to set them in, until you are ready to use them.

Now, when all cells are cut out, just place the cell, as it is already in the protector, on the side of a comb in the same hive. By pushing the spur of the protector (see Fig. 1) into the comb, it will stay there; and the long queen-cage placed below (see Fig. 2) it, with its spur pushed into the comb, will also stay, and there is queen food in the bottom of this cage, so that, when the queen hatches, she will run down into this cage. In this way you have a queen-nursery in any hive, and hatch out as many queens as you wish.

Now, after the cells are hatched you can make as many nuclei as you have queens, by just taking one frame with adhering bees, and place in an empty hive; place another comb by the side of this; give them one of these virgin queens; close the hive, and so on until the cells are closed up, and wait until they lay; then do with them what you please.

HOW TO USE THE CELL-PROTECTOR.

Hold the small end of the protector between the thumb and first and second fingers of the left hand. Hold the queen-cell by, the big end in the right hand in the same way. Now you are ready to put the cell in; and as soon as the fingers of the right hand touch the cage, it will shorten up by pushing slightly, so as to fix the point of the cell just

through the small end of the protector. Let loose with the right hand, and the coil will spring back and cover the butt end of the cell; slip the tin cover in between the wire coil, just above the butt end of the cell; then you are ready to put the cell in a hive.

Then just spread the combs apart far enough to put your hand in; now push the spur of the protector in the comb where you want it (see Fig. 1). I leave them just below the top-bar. Now place your frames, and it is done. The top of the protector is in plain sight when the hive is open.

Care should be used to handle the cells right side up, without a jar. It is a satisfaction to look in a few days and find the cells all whole, except where the queen has helped herself out. The bees

Although I made at his place a very brief call of only some fifteen or twenty minutes, I became convinced of the fact, by looking around with his son (the father being absent), that he is one of the bee-keepers who ought to let their light shine a little more. I met him for the first time at the Albany convention, and there he showed me a spiral-spring cell-protector.

Several bee-keepers who have tried them, said that they were a good thing. I have since been informed that Capt. Hetherington considers them so good that he has ordered 500, and that P. H. Elwood also wants a lot of them, and that both say they are ahead of anything else they ever saw for a protector. Mr. W. L. Tennant said he would rather do without comb-foundation than do without these protectors. This estimate is perhaps a little strong.

I am well aware that this looks like free advertising; but when so many good bee-keepers assure me it is a good thing, I am glad to give it this notice, particularly as Mr. West charges a very reasonable price for them. As he pays for advertising space elsewhere, he cannot be accused of taking advantage of this notice free,

We are all aware that the principle of the protectors is old, and that Doolittle has used a wire-cloth cone for years, but I believe the idea of using a spiral-spring is new. The point of superiority over wire-cloth cone-protectors is, that the spirals adjust themselves to the size of the cell, causing the tin-slide shown in the engraving to press down on top of the cell, so that the end, or point, of the cell is squeezed against the apex of the cone. With the wire-cloth protectors I have known bees to push the cell up, crawl inside of the cone, and gnaw into the side of the cell; but they could not very well do it with Mr. West's spirals.

The point he makes, that the requeening can be done during swarming time, is a good one, as is also the point that an extra-long cone can be attached to shorter ones, the queen hatched out, and be retained a day or two until a place is found for her. The facility with which these cones can be attached to the combs is another point in their favor.

[The reader's attention is now directed to the advertisement of these useful articles on page 692. We have given the above with the illustrations, in order to make Mr. West's invention as plain as possible to all.—ED.]



COILED WIRE QUEEN-CELL PROTECTOR, WITH TIN SLIDE COVER.

cannot destroy the cell before she hatches, if properly put in; neither will it be destroyed by spreading the frames, if you wish to do so.

Middleburg, N. Y. N. D. WEST.

These spiral-spring queen-cell protectors have been in our Museum for two years, and have been admired by all who have seen them. They are excellent for the purposes indicated by Mr. West, in the above article, and will no doubt very soon be considered *indispensable* in every well-regulated apiary. Mr. E. R. Root adds the following endorsement to Mr. West's article in last month's *Gleanings*:

Mr. N. D. West is one of those bee-keepers at whose place I stopped in my bicycling tour. He owns about 400 colonies distributed in three apiaries.

Spring Dwindling; Its Cause and Cure.

EDWIN PIKE.

This is a subject that extends further, and, I might say, deeper than most authors conduct their researches.

It would be impossible to elaborate this subject at this convention, for the reason that our schedule time will not permit. Therefore, we will choose the most important questions pertaining to it.

To begin with: Do not think that I, or any other critic, can go to one of your *dwindling* colonies in April and put them in a healthy and thriving condition in ten minutes, or in a day. I could not attempt it; neither do I believe I could do anything of the kind. But I hope it will be sufficient, and I trust I shall succeed in giving good advice, how to lessen this evil that troubles us all, by putting into practice a few methods that will give us better results, in future years.

A colony of bees in April with a vigorous queen, strong in worker-bees, healthy and thrifty, is essentially a desirable colony, and, without doubt, will give good results the following season. But what can we do to have such colonies in April?

Let us dwell on a few points concerning this question. To determine how to proceed in order to bring about such results depends almost entirely on their management.

Colonies cannot be left unattended to or neglected without endangering their condition. I am a strong believer in a good-sized brood-chamber, for all of our colonies, so they will have sufficient room for two important purposes—plenty of room for brood-rearing, and for a goodly amount of early honey handy to each cluster.

In the cool weather of Autumn, Winter and Spring, they are very much indisposed to separate themselves from the cluster to feed on their stores; sometimes starving by reason of this. I am, and have been, a strong advocate of the breeding up of queens. I consider *purity*, *prolificness*, and vigorous and thrifty propensities, strong points in a good queen. In fact, only such queens will give good results. Docility is very desirable, as we can always handle them in less time, and with much less annoyance.

To obtain all these qualities requires study, work and perseverance; and I tell you this additional work pays every time. To have strong and thrifty colo-

nies in the Spring, is a boon to every bee-keeper.

The quality of our queens, in a great measure, determines the condition of the colonies the greater part of the year (*Spring* being the most critical time), and also determines the amount of our honey crop. Such queens can be depended on far better for keeping the brood-chamber crowded with brood through the season, and they are a great deal more apt to keep up brood-rearing until late in October.

Now, it must be remembered that the age of the worker-bee determines the amount of honey it gathers, and also the amount of honey it consumes in the secretion and production of wax scales necessary for comb-building.

During the honey season they are occupied in this work, and they die off at four to six weeks from the commencement of their season's work. Thus it is, that so much brood-rearing is a necessity previous to and during the honey season.

After October, they get but little honey, and it is thus that all bees hatched out after October live from five to seven months. But some seasons it is so dry in August and September that brood-rearing nearly ceases, and to overcome this difficulty, and keep up brood-rearing until the proper time, I would stimulate them regularly, and often enough so the queens would be content with stores coming in sufficient for the purpose of keeping up brood-rearing the required time. The domestic duties of the queen naturally keep pace with the amount of fresh forage coming in, so necessary for the brood.

It should be remembered, that if any colonies have stupid, unprolific queens that feed, and time is virtually thrown away. Few bee-keepers know how much time is lost and money thrown away by tolerating feeble and impotent queens.

Such colonies are particularly noticed by their owner in the Spring, and perhaps he may discover many colonies in poor and bad condition; some few in numbers; some having a sickly appearance, and hardly able to crawl over the combs—queen, if any, not able to move about, combs much soiled with their excrement, and perhaps legions of imperfect and very inferior drones, and no queen, but instead a few cohorts of laying workers.

Well, what are such colonies good for? Only their combs are of any practical use, and if the hive is cleaned, combs washed and brushed up, another swarm

put onto it, is the most profitable thing to do.

Friends, did you ever see such a condition of affairs? Perhaps I have described it so minutely that you conclude I have had such experience. Well, I have had some experience of this kind, and I have tried to profit by it, perhaps as much as any man in Wisconsin, and I can assure you I have profited by it materially.

Spring dwindling is a great source of annoyance, and it tries the patience, no doubt, of any bee-keeper who has been troubled by it. Then, should we not turn our attention to more care in the breeding of our queens? Assuredly that is the remedy. It should be done whenever needed, and remember that the breeding season is the time to attend to it.

But there are evils that cause spring dwindling, that for this occasion we do not intend to overlook. It has been, and to some extent now is, the practice of some bee-men, after taking a goodly surplus from the upper stories, to be greedy enough to ransack the brood-chamber for all white honey, depending on their filling up with late, dark honey.

It is a trite saying, that bees will thrive on *any* pure honey; but I tell you this is a grand mistake; a mistake that has brought recorded sorrows to many bee-keepers.

Note carefully what I now tell you: Early honey, such as white clover and basswood, always has a *healthful* and *pleasant* odor, while most of our late honey is dark, and of strong odor, which is *unhealthful* for the bees; and especially if such honey is unsealed, it is more apt to remain liquid, and this condition induces disease.

I would not say that white clover and basswood honey is absolutely safe food for bees to winter on, but I will say that either, or both, is the safest food for them that I know of, and I have had a long and extensive experience, by which I am convinced of this fact. And while I would not say that bees cannot thrive in exceptional cases on dark, late honey; yet I do say that, as a rule, our late, dark honey is *not* to be depended on; neither is it healthy for the bees to winter on.

Honey-dew, which forms on the leaves of oak and hickory in August, by a peculiar state of the atmosphere, has been known to a certainty to be the cause of great fatality among bees, and such should be taken from them as fast as they store it. I do not class this as a real honey, because it is not produced

by any plant, but is simply an atmospheric production.

I think buckwheat and other late honey is all right for stimulating purposes. We generally stimulate in the Spring, and it is immediately consumed, and its odor does no harm.

Successful wintering of bees includes their going through the Spring all right, and to attain this result certain rules are observed. They should be quilted in such a way that the dampness of their breath will be absorbed, and their normal heat retained.

Dampness is the cause of moldy combs, and mold is a source of disease; therefore guard against such things, and save loss. Do not permit the air of the beeroom to become foul, or dead bees to accumulate on the floor, or at the entrances to the hives.

Before closing, permit me to arouse your mental faculties a little: I have pointed out many practical methods for the wintering of our bees, and a few literary suggestions, perhaps, will not come amiss.

By expanding our thoughts in making our calculations for the future, we will be very likely to improve in many things pertaining to successful bee-keeping.

Experience is what we all need; and it takes time to acquire experience. You may ask, "What is the first thing to be done?" Do considerable thinking about your bee-prospects, and if you have not already secured some good bee-books, and a good bee-periodical, then get them at once, study them well, do some more thinking, and then, I believe, you will be inclined to settle down to good rules, and adopt the methods that will lead you to success.

Remember, that study always takes precedence in such matters. That is an essential law of man's nature, and he who sets himself up before the world as being master of a profession that he never studied, would be a very sure victim to failure, and he would not only be a laughable, but a pitiable object.

Men of marked success in the world never relinquish the power of thought or study, because this is the essential part of man. Power of thought places us pre-eminently above the lower beings of the earth. Then, again, I ask, Why not avail ourselves of these rich gifts and put them into practice.

Some of you may ask, "What books and periodicals do you advise us to obtain?"

Well, there are many good books and periodicals on bee-culture. Look over the list and choose for yourselves. See

to this part of your work at once, and store up a little more knowledge before the season of action is upon you. Read up all practical rules in the books; study well the proceedings of all conventions, and *do not* forget to attend and participate in the exercises of your home conventions, and soon you will be switched onto the main track that leads to the city of Success.—*Read at the Southwestern Wisconsin Convention.*

Boscobel, Wis.

Comb and Extracted-Honey.

B. C. GRIFFITH.

I was called upon to deliver an address before the North Carolina Bee-Keepers' Association, and send it for publication in the AMERICAN BEE JOURNAL. It was substantially as follows:

For the production of a crop of honey, the first requisite is a strong force of young and vigorous bees at the beginning of the honey-flow.

Geo. E. Hilton says the time to put on sections is when the raspberry comes into bloom, and from this I judge the time for us is when the blackberry begins to bloom—last year to the contrary notwithstanding. Keep all the colonies strong, is the watchword, if you wish to gather honey; and another thing is to have a good queen in the colony laying eggs by the thousands. A poor queen, a poor colony of bees; results, no honey.

The combs should be filled by the bees and "cap shut," as the Dutchman called it, before the honey should be extracted, as this capping is evidence of ripe honey. If taken from the combs before ripe, it may ferment and be a vinegar crop, instead of honey.

The extractor was invented in 1865, by Maj. de Hruschka, of Dolo, near Venice, Italy. He first discovered it by giving to his son a piece of comb-honey on a plate; the boy put the plate in his basket and swung it around him like a sling. The father noticed that some honey had been drained out by the motion, and came to the conclusion that combs could be emptied by centrifugal force. The bee-keeping world hailed this invention with delight.

A. I. Root, of Medina, O., claims to have extracted the first ton of honey ever taken from one apiary, with the extractor. From that time to this the extractor has been manufactured and scattered to all parts of the world. In almost every hamlet, the extractor can

be heard singing its song (a land flowing with milk and honey), on autumn evenings. While the extractor has been the means of saving many tons of honey, yet I am convinced that there are tons upon tons lost for the want of bees to gather the precious nectar.

Nothing is added to it, and nothing taken from it, but the comb. It is not the old-fashioned "strained honey" of our grandfathers, which was obtained from brood-combs mashed up with dead bees, pollen and dirt, and then strained through an old mill sack. But it is the pure (liquid) nectar, gathered from the flowers by the bees, and carried to the hives by them, which will give health to the body, force to the mind, and strength to the intellect of those who use it.

It should always be kept before the consumers of honey that its granulating is a guarantee of its purity, and if they desire to liquefy it, that it can be done by placing the vessel in warm water, gradually increasing the heat until it becomes liquefied. But great care must be exercised in heating honey, as there is danger of injuring it.

During the past season I extracted some before thoroughly ripe, and it began to ferment; I put it into a large tin boiler to heat over a very slow fire, aiming to heat just sufficiently to evaporate it, but before I was aware, I came near spoiling 60 pounds of honey, though we used it at home. So you see it is a careful job, and must be performed with prudence.

Griffith, N. C.

Apicultural Notes from Nebraska.

J. M. YOUNG.

Three hours of slow rain yesterday has put the ground in excellent condition for planting and cultivating.

The season so far is encouraging for a good honey crop this year.

The apple bloom furnished considerable honey for brood-rearing, and now the hives are becoming crowded with bees.

The new Benton cage, for shipping queens, is a success. This cage seems to be an improvement over all others. The plan of introducing by letting the bees eat the candy out and releasing the queen, can be pretty well depended upon in nearly every instance.

I have ordered a few of the dovetailed hives, and, to say the least, they are

handsome, and think I shall use quite a number of them the coming season. Will state at some future time just how I succeed with them.

Not a single case of foul-brood has ever come to my notice in this locality, and, to state the facts, will say that I never saw a single colony effected with it. My mind has been made up for a long time just how to cure it if a case of it should appear, and that is to burn every particle of it—bees, hives, and all.

Plattsmouth, Nebr., May 16, 1891.

Ionia, Michigan, Bee-Keepers' Convention.

HARMON SMITH.

The Ionia Bee-Keepers' Association met in Ionia, Mich., on Wednesday, May 6, 1891.

The convention was called to order at 10 a.m., by President A. N. Hall.

President Hall appointed Jacob Moore and W. W. Penney a committee to examine and report on exhibits.

The Secretary and Treasurer presented his report, showing a balance of \$2 in the treasury.

Adjourned until 1 p.m.

AFTERNOON SESSION.

The convention was called to order at 1 p.m.

Proceedings were opened with a song by Mrs. Harmon Smith, accompanied by Miss Josephine Pickett, on the organ, and the convention was favored with instrumental music by these ladies, at intervals during the afternoon.

Mr. W. Z. Hutchinson, editor of the *Bee-Keepers' Review*, of Flint, was introduced and delivered an address on

Increase, Its Management and Control.

There are two classes of bee-keepers who desire to prevent increase in the number of their colonies. The first, and by far the larger class, own only large home apiaries, and prefer surplus to increase. This class can allow swarming if, by some simple manipulation, the number of colonies can be kept the same, and the bees induced to devote their energies to the storing of honey. The other class are possessors of out-apiaries; and they desire not only to prevent increase, but to suppress swarming. This accomplished, the apiaries can be left alone, except at stated intervals.

In reply to the question, "Why do bees swarm?" it has been replied that, "It is natural," "It is their method of

increase." This may be true in part, but it is not a satisfactory answer.

I have never known a season to pass in which all of the colonies of my apiary either swarmed or did not swarm. One year I had 75 colonies. They were worked for comb-honey. Forty of them swarmed; 35 did not. It would have been just as "natural," just as much "according to nature," for one colony to swarm as for another.

In *Gleanings* for 1889, there was quite a lengthy discussion in regard to the causes that lead to swarming. The gist of the discussion seemed to be that an undue proportion of young or nurse bees to the brood to be nursed was the prime cause of swarming.

If the brood-nest be well filled with brood, then for lack of other room the bees begin storing honey in the cells from which the bees are hatching; the result is, that soon there is but little brood to care for compared with the number of nurses, or young bees. This theory is strengthened by the fact that when bees are given an abundance of empty comb in which to store their honey, swarming very seldom occurs. In short, extracting the honey, or, to be more exact, giving plenty of empty comb, is the most successful, practical method of controlling increase.

In large apiaries, especially out-apiaries, that can be visited only at intervals, it is well-nigh impossible to keep every colony always supplied with empty combs, hence there will be occasional swarms. If there is to be some one present to hive what few swarms do issue, and prevention of increase is desired simply that the amount of the surplus may be greater, and the surplus is preferred in the extracted form, then the man with these desires can have them gratified.

In the production of comb-honey, I doubt if there is a profitable method of preventing swarming. It may be discouraged by giving as much surplus room as possible; but foundation does not equal drawn comb as a discouragement to swarming. The issuing of after-swarms can be prevented, but the best that can be done with first swarms is to let them come, and then so manage as to make the most of them.

When the season for surplus honey closes with clover or basswood, it is better not to try to secure surplus from both the parent colony and the swarm. Hive the swarm upon the old stand, transferring the supers from the old to the new hive. If the brood-chamber of

the new hive is not too large, work will be at once resumed in the sections.

Place the old hive by the side of the new one, but with its entrance turned to one side. That is, have the rear ends of the hives nearly in contact, but their entrances perhaps two feet apart. Each day turn the entrance of the old hive a few inches toward that of the new hive. At the end of the sixth day the two hives should stand side by side. Practically, the hives are on one stand. True, the bees of each hive recognize, and enter their own home, but remove either hive, and all of the flying bees would enter the remaining hive.

Usually the second swarm comes out on the eighth day after the issuing of the first. Now, if the apiarist will, on the seventh day, about noon, when most of the bees are a-field, carry the old hive to a new location, all of the bees that have flown from the old hive since the issuing of the swarm, that have marked the old location as their home, will return and join the newly-hived swarm. This booms the colony where the sections are, and so reduces the old colony, just as the young queens are hatching, that any further swarming is abandoned. The old colony just about builds up into a first-class colony for wintering. If there is a Fall honey-flow, such a colony may store some surplus then.

This method of preventing after-swarming, called the Heddon method, is not infallible. If a colony swarms before the first queen-cell is sealed, the first young queen may not hatch until the old colony has been upon the new stand long enough for a sufficient number of bees to hatch to form a swarm, when they may swarm; but as a rule, this is a success.

If the bee-keeper desires no increase, let him pursue the plan just given, for the prevention of after-swarming until the point is reached where the old hive is to be carried to a new location, when the old hive is simply to be shifted to the opposite side of the new hive, with its entrance turned away as in the first instance. Each day the hive is to be turned slightly, as before, until the hives are again parallel, when, at the end of a week from the time the "shift" was made, the hive can again be changed to the other side of the new hive.

By this management, the young bees that are continually hatching in the parent colony, are being enticed into the hive containing the swarm. At the end of the third week, the combs of the old hive will be free of brood. That left by the old queen will all have hatched,

while the young queen will not have been laying more than two or three days at the most. The few remaining bees can now be shaken from the combs of the old colony and allowed to run in the new hive.

If there is any choice of queens, the apiarist can kill the one that is the least desirable; otherwise he can allow the queens to settle the matter themselves. I prefer the latter course. What little honey is left in the combs may be extracted, and the combs, unless there is some immediate use for them, stored away, and close watch kept over them, that they are not injured by the bee-moth's larvæ. I do not like the plan of putting the brood-combs of a colony from which a swarm has issued, upon some other hive, the cells being filled with honey as fast as the bees hatch. There seems to be no good plan of allowing bees to swarm and then preventing increase by uniting, without having an extra set of combs built for each swarm that issues, but I believe such combs are produced at a profit.

There is still another plan of preventing increase besides that of merging the old colony into the new; it is that of contracting the brood-nest of the newly-hived swarm to such an extent that the end of the season will find it too reduced in numbers for successful wintering, when it may be united with the parent colony.

I do not wish to be understood as saying, or even intimating, that there are no other methods of preventing or controlling increase. There are several. But it is not always a question of what can be done, but if it can be done profitably? Some have practiced, and reported favorably, the plan of allowing a swarm to return to the old hive, then removing the queen, and afterwards cutting out all the queen-cells but one. It has this in its favor: The colony is requeened; but, as an offset, there is the labor of cutting out the cells, with the possibility that one or more may be overlooked, or that the one left, may not hatch.

With the prices at which honey sells, there must be as little of this "puttering" work as possible. The cutting out of queen-cells, handling of combs singly, changing them about, etc., must be dropped for more wholesale, short-cut methods. There must be more handling of hives, and less manipulation of combs.

For some reason, a colony with a queen of the current year seldom swarms. Perhaps one reason is that her vigorous laying does not allow the

bees to crowd her out, and thus reduce the amount of brood compared with the number of nurse bees. In order to be effective, the young queens must be introduced early in the Spring, before there are any preparations for swarming. It is difficult to rear queens so early in the season, and expensive to get them from the South.

Quite a number of bee-keepers have succeeded to their satisfaction, in preventing after-swarming, also in preventing increase, while but very few have succeeded in preventing swarming. Probably the only certain method that has been used to any extent in this country, is that of removing the queens just at the opening of the swarming season, leaving the colonies queenless about three weeks. Of course, queen-cells must be cut out at least twice during this interval. Although a few good men practice this method, I never could bring myself to adopt it—there is too much labor.

I have said nothing in regard to making increase artificially, because, unless there is a desire for unusual increase, or to leave the apiary unattended, I think natural increase is preferable. One difficulty in dividing bees to forestall swarming, is that all colonies are not ready for division at the same time. There is danger of waiting too long or of dividing too soon.

The man who is producing honey as a business, will find it to his advantage to allow each colony to swarm once, if it will (and no more), then make the most out of a swarm. Whether the swarm and old colony shall be again merged into one, depends upon the desirability of increase.

This was followed by interesting remarks by Mr. Abner Brown, of Lansing, a practical bee-keeper of long experience.

The Committee on Exhibits made the following report:

Jacob Moore, Ionia, 1 bee-hive.

Mrs. M. E. Thomas, Ronald, 1 can honey.

C. H. Ford, Ronald, 1 crate comb-honey.

Abner Brown, Lansing, 1 bee-feeder, 11 vials of honey, from different sections of the United States.

H. M. Lewis, Ionia, 1 case extracted-honey.

Harmon Smith, Ionia, novice honey-extractor, family favorite honey-scale, 10 bee-papers, 2 shipping-cases for extracted-honey, 4 dozen cans of extracted-honey, Dr. Tinker's sections and zinc, Van Deusen's foundation, Root's foundation, Dadant's foundation, 3 samples of sage honey and cases.

H. B. Webber, Ionia, 1 Clark and 1 Bingham smoker.

The election of officers resulted as follows:

President, A. N. Hall, Ionia.

Secretary and Treasurer, Harmon Smith, Ionia.

On motion of Harmon Smith, the following resolutions were adopted:

Resolved, That we do most respectfully petition the Honorable Legislature of Michigan to incorporate in their appropriation for the forthcoming World's Columbian Exposition, at Chicago, such sum for the purpose, and as shall be adequate to give the bee-keeping interest of the State its due and proper representation in said Exposition.

Resolved, That it is our opinion that the bee and honey exhibit of North America should be grouped together, each State and Province by itself, so as to make one grand "sweet" show.

Resolved, That our thanks are due to W. Z. Hutchinson, editor of the *Review*, for his instructive address, and to Abner Brown, of Lansing; to the press, for its kindly notices; to the ladies for their music; to the W. C. T. U. for the use of their rooms, with a blessing for their cause; to our exhibitors for their efforts in making a display at this meeting.

The reports of those present show that the Winter and Spring losses are about 5 per cent., and the present prospects good.

The convention then adjourned to meet in this city on Sept. 15 next.

The attendance was the largest known in the history of the society, and the increased interest is very encouraging to those concerned in its success.

Ionia, Mich.

Detecting Adulteration in Wax.

We detect adulteration by the smell, and by chewing the wax. Beeswax and tallow will make very fair chewing-gum. But wax alone will crumble all to bits, and cannot be chewed—at least very long.

The addition of paraffine has somewhat the same effect; and even a very little paraffine makes the wax melt at a much lower temperature, so that it is entirely unfit for foundation.

If the sample in question should, with very mild heat, become soft and mushy, you may suspect paraffine.

Beeswax, however, is tough and leathery, and easily rolled at a temperature where paraffine would have no toughness at all.—*Gleanings*.

CONVENTION DIRECTORY.**Time and place of meeting.**

1891.
 June 2.—Des Moines County, at Burlington, Iowa.
 John Nau, Sec., Middletown, Iowa.
 Aug. 6.—Rock River, at Sterling, Ills.
 J. M. Burtch, Sec., Morrison, Ills.
 Sept. 3.—Susquehanna County, at So. Montrose, Pa.
 H. M. Seeley, Sec., Harford, Pa.

NOTE In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—P. H. Elwood.... Starkville, N. Y.
 SECRETARY—C. P. Dadant..... Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon .. Dowagiac, Mich.
 SECY AND MANAGER—T. G. Newman, Chicago.

Bee and Honey Gossip.

NOTE Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Flattering Prospects.

My bees are in good condition, after wintering on the summer stands; loss only 9 colonies, 4 of which were queenless. I keep from 90 to 120 colonies, and produce both comb and extracted-honey. White clover is beginning to bloom, and bees will be booming in about ten days. Prospects are flattering.

J. DOTY.

Galt, Mo., May 16, 1891.

Clover Promises Well.

I notice that by most of the leading lights in apiculture, Query 765 is answered in the negative. I take affirmative grounds on this question, but would use neither gloves nor mittens, but for protection for the hands I use a pair of half-hand mitts, made out of an old pair of stocking legs. Take a pair of stockings, cut off the feet through the upper edge of the heel, hem them and fit them to the hand by sewing around the fingers so as to leave the fingers and thumb exposed, and fasten to the sleeves with safety pins. They are cool, but very

little in the way, and you have no trouble from bees on your wrists, nor crawling up your shirt sleeves. With me, these mitts take rank alongside of the smoker and a good bee-hat, as articles which are indispensable in an apiary. Bees in this part of Illinois are in splendid condition for the clover bloom, which now promises wonders.

HENRY STEWART.

Prophetstown, Ills.

Alfalfa Pasturage.

Two years ago I began bee-keeping with 3 colonies, and now have about 40. Am located in the midst of several thousand acres of alfalfa, in consequence of which I obtain an abundance of alfalfa honey, without the bees going far—probably not more than half a mile. This honey is of the best quality, far superior to any other product in this market, and sells readily. I have gained many valuable points from the AMERICAN BEE JOURNAL, and enjoy the different ideas advanced.

Denver, Colo. S. W. SPRAGUE.

Spreading the Light.

Since my arrival here, three years ago, I have succeeded in convincing several of my bee-keeping neighbors that it would pay them to subscribe for a bee-periodical, and they have abandoned the box-hive, log gums, black bees, etc., and invested in movable-frame hives and the gentle Italian bees.

A. M. HOYLE.

Whistler, Ala., 1891.

Heavy Losses of a Bee-Keeper.

I have about the only bees kept in this immediate vicinity, and I came very near having none. I put 74 colonies, mostly strong ones, into winter quarters in good order, but for reasons unknown, only a few more than half survived the Winter. My cellar seems to be perfection, and those that did well were fine when taken out, but my number is reduced to 24 colonies, although they have had all the honey they could consume. The season is very backward, with cold, dry, north winds, and forest fires raging as never before known here. At times the smoke makes it dark at midday, it is suffocating to breathe, and terrible upon the eyes. The loss of my bees, however, is but a drop in the bucket. The fire has cleaned out my

summer's run of logs, and destroyed many thousand dollars' worth of valuable timber, until I now can class myself with poor men. The only bees that did well last Winter were those that were under the treatment of my New Idea, and they still survive. The present prospect this season, here, is very poor with bees, as well as agricultural produce, and the timber of Northern Michigan has been badly riddled by fire.

F. D. LACY.

Nirvana, Mich., May 17, 1891.

Very Little White Clover.

We have never had to feed bees so much in the Spring as we are doing now. Apples blossomed very sparingly, but the pear, peach and cherry bloom was quite profuse. There is very little white clover here, compared with former years.

MRS. L. C. AXTELL.
Roseville, Ills., May 18, 1891.

New Comb-Honey.

The weather is glorious, and the bees are gathering honey very fast. On last Tuesday I took off 2 frames of new honey—the first of the season. They weighed 8 pounds each. Bees are not swarming much, as I use large hives.

G. B. CARTMELL.
Jackson, Tenn., May 15, 1891.

Fruit-Bloom Honey.

This Spring has furnished the most bountiful harvest of honey from fruit blossoms that I have known during the last ten years. All the strong colonies are simply rolling in the honey from morn to eve, and I keep close watch for preparations for swarming, and not in vain, as cells were started in several hives. The Spring was very late and cold, with many cloudy, rainy days, but for the past twelve days there has been continuous sunshine. Almost every season fruit bloom is accompanied by gloomy weather, so that the bees are confined to their hives nearly all the time. Present prospects are that the season will be a dry one. While the dry weather we are having now does not interfere with the honey yield from fruit blossoms, it is going to cut off our clover yield very much, if not entirely. We need rain now, and must have it or clover cannot grow.

C. W. DAYTON.
Clinton, Wis., May 16, 1891.

Loss Ninety Per Cent.

I put 71 colonies of bees in the cellar last Fall, and on taking them out April 27, found 69 colonies living. I united several colonies until they now number 62. Found no sealed brood, except in one or two colonies. The Spring has been very backward, and this morning the ground was white with snow, and ice had formed $\frac{1}{2}$ of an inch in thickness. As Vice-President of the Vermont Bee-Keepers' Association, I have received reports from 11 small apiaries, containing 4 to 15 colonies each, and 90 per cent of the bees are dead; 4 colonies being the most any one of them have left. My bees are looking finely, and if frost does not kill the basswood bloom, I expect a large yield of honey.

M. F. CRAM.

West Brookfield, Vt., May 18, 1891.

Injured by Frost.

On April 22 I arrived here from Michigan. Cherries and peaches were just beginning to bloom, and the bees did splendidly while they lasted; following them came the buckeye and apple bloom, and although we had several frosts, they did not do much damage until May 16, when the weather became very cold, and ice formed one-fourth of an inch thick. Peaches and cherries were as large as peas. Fruit of all kinds is killed, and I think that wheat and oats are badly injured. It is very dry here, and the prospects for a honey crop are quite poor. There will be nothing for the bees until white clover and basswood bloom comes, and I fear they are injured. We shall have to feed our bees for some time, but they are strong, and have plenty of brood. At my old home in Michigan the bee-keepers fared worse than we did. I am very much discouraged, but we must look on the bright side.

L. REED.

Havana, Ohio.

Foundation from Foul-Brood Combs.

I wish to say a few words about comb-foundation made from foul-brood combs. I have bought and used such foundation, and no evil results followed its use, and I would as soon use it as any other foundation. I have had an experience of 18 or 20 years with foul-brood, and have no trouble in curing it. One apiculturist whose bees I cured of the disease last Fall, had 18 or 20 colonies badly affected with foul-brood. He got, I

think, 20 pounds of Dadant's foundation last Summer, and to-day I cannot find a single cell of foul-brood among them. They wintered well, and are strong, with plenty of young bees, and full combs of brood. I have taken charge of 6 colonies belonging to another apiculturist, and am working with them. It can be depended upon, that wax that has been well heated two or three times will not contain any living germs of foul-brood. This is intended to corroborate the statements of Messrs. Dadant, Root and Hunt, recently published in the BEE JOURNAL on this subject.

D. D. DANIER.

Madison, Wis.

Building Up Rapidly.

My bees wintered well without any loss, and are building up very fast. When the fruit trees were in bloom, they could work on the blossoms almost every day. The drones are now flying, and I expect some swarms soon. White and alike clover promise well.

C. SCHRIER.

Peotone, Ills., May 21, 1891.

Ready for the Swarms.

The first drones I have seen this season were flying to-day. My bees will begin to swarm in a few days, and I will be glad when they do, as I am ready for them, having been making hives all Winter.

A. J. C. PETERSON.

Dicks, Mo., May 14, 1891.

Alfalfa in Utah.

Alfalfa, or lucern, as it is called in Utah, is a splendid honey-producing plant—in fact, there is no plant that beats it in this respect. I have sent you a sample of lucern honey. In this climate we have no trouble in starting it. I have 12 acres on which I never sowed a pound of seed. My meadow is on the high ground of my farm, and the alfalfa goes to seed on the banks of the irrigating ditches, the seeds fall on the water, and are carried by it out on the land, and in that way it is spread so that I have to grub it up to keep it from covering my whole farm. When I do sow it, I put from 15 to 20 pounds to the acre. It will produce four crops a year here, yielding from 1 to $1\frac{1}{2}$ tons of hay per acre. It is not like white clover, depending on rain, for after it gets started, the roots run deep into the

ground. I think the roots will reach a depth of 4 feet the first season. I have seen it in California with roots as large as a lead pencil, and reaching a depth of 20 feet.

O. W. WARNER.

[The sample is received, and is of good body and flavor.—ED.]

Do Your Duty.

This is a progressive age, and the bee-keepers of the Western World are the most progressive on earth. But there are things in which they are sadly deficient, and one is the requisite amount of nerve to do the proper thing at the proper time. There is a special duty that should be performed *now*, and that is every bee-keeper should join the Bee-Keepers' Union without delay.

Buffalo, N. Y.

J. W. TEFFT.

Working on Poplar Bloom.

The weather is very cool at present, and the bees cannot work more than half of the time. There is still plenty of poplar in this vicinity, despite the fact that the saw mills have been working it up into lumber for the past five or six years. It has been in bloom for two weeks, and the bees are booming on it to-day. There is no tree in the United States that produces half as much honey as the poplar. Some years it produces so much nectar that the flowers are full to overflowing, and the nectar falls upon the leaves and stones beneath. If the season is dry and hot, the nectar will dry in the blooms, in the form of small, thin cakes. My bees are in range of Smoky Mountain, and while they are working on the sides of the mountain, the top is white with snow. On page 612, I am made to say that I have 16 colonies of bees, when it should be 61 colonies.

SAMUEL WILSON.

Cosby, Tenn., May 14, 1891.

[The error occurred through the simple transposition of the figures, as can be seen at a glance.—ED.]

Bee-Keeping for Profit, by Dr. G. L. Tinker, is a new 50-page pamphlet, which details fully the author's new system of bee-management in producing comb and extracted-honey, and the construction of the hive best adapted to it—his "Nonpareil." The book can be had at this office for 25c.



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